UNITED STATES PATENT AND TRADEMARK OFFICE

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _29 June 2007_.

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-14_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1-14_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

1.   **Claim1-14** rejected under 35 U.S.C. 102(e) as being anticipated by Azenkot et

al. (US Patent Number 7,050,419).

Regarding **Claim 1** Azenkot et al. disclose a method for reusing Synchronous
Code Division Multiple Access (S-CDMA) parameters to define Time Division Multiple
Access (TDMA) minislot size, comprising the steps of *(see column 29, line 43,
Minislot Mapping):*

determining S-CDMA parameters to create a S-CDMA-type upstream channel
descriptor (UCD) message by a cable modem termination system (CMTS)*(see column
30, lines 56-58, use parameters in the UCD message to calculate the number of
time counts per SCDMA frame);*

forwarding said S-CDMA-type UCD message to a modem operating in TDMA
(CM, cable modem) mode by said CMTS *(see column 30, lines 50-64, CM must
maintain a set of counter identical to the CMTS, the minislot number and the
frame number in the UCD message keeps the CMs frame synchronized)(Using
the timestamp snapshot and parameters in the UCD, the cable modem can
calculate the number of time counts per SCDMA frame, meaning that a SCDMA
type UCD message is forward to a TDMA modem and minislot mapping the
message to transmitted)* ;

calculating a TDMA minislot size by said modem using said S-CDMA parameters
*(see column 30, lines 1-3, minislot is 2xK where K is the number of spreading
intervals)(see also column 30, lines 50-64, Using the timestamp snapshot and
parameters in the UCD(SCDMA type), the cable modem(operating in TDMA
mode) can calculate the number of time counts per SCDMA frame, this is the
process for minislot mapping);*

calculating a frame duration value and a minislots per frame value; using said
frame duration value and said minislots per frame value to maintain a minislot counter
and a frame counter*(see column 30, lines 40-44 and lines 58-60, the CMTS must
maintain a frame counter and a minislot counter, once every 2^23 counts for this
sampling interval, Using this timestamp snapshot and parameters in the UCD
message, the CM can calculate the number of time counts per SCDMA frame,);*
and

constructing a relationship between a system timestamp counter, said minislot
counter and said frame counter via a timestamp snapshot*(see figure 12b, timestamp*

snapshot, column 30, lines 51-55, timestamp snapshot is composed of timestamp count, minislot number and frame number).

Regarding **Claim 2** Azenkot et al. discloses everything claimed as applied above (*see claim 1*). In addition, the method includes:

wherein said step of calculating said frame duration value and said minislots per frame value, said step of using said frame duration value and said minislots per frame value to maintain said minislot counter and said frame counter, and said step of constructing a relationship between said system timestamp counter, said minislot counter and said frame counter via said timestamp snapshot is performed by both said CMTS and said modem(**CM, cable modem**) *(see column 30, lines 65-67, the CM and CMTS, must each implement a 32-bit timestamp counter , a 32-bit minislot counter and a 8-bit frame counter);*

Regarding **Claim 3** Azenkot et al. discloses everything claimed as applied above (*see claim 1*). In addition, the method includes:

wherein said step of determining S-CDMA parameters comprises the steps of :

determining a modulation rate parameter*(see column 31, line 18, signaling rate defined);*

determining a spreading intervals per frame (K) parameter*(see column 31, lines 19-20, the number of spreading intervals per frame);*

determining a number of active codes parameter*(see column 31, line 21, the number of active codes);* and

determining a codes per minislot (Cms) parameter*(see column 31, lines 19, the codes per minislot).*

Regarding **Claim 4** Azenkot et al. discloses everything claimed as applied above (*see claim 3*). In addition, the method includes:

wherein said minislot size is calculated by multiplying said K parameter by said Cms parameter*(see column 31, lines 60-61, minislots where each minislot contains c*k(spreading intervals) symbols).*

Regarding **Claim 5** Azenkot et al. discloses everything claimed as applied above (*see claim 3*). In addition, the method includes:

wherein said frame duration value is calculated by multiplying a duration of spreading interval parameter by said K parameter*(see column 31, lines 34-36, the number of spread intervals and the signaling rate defines the frame duration).*

Regarding **Claim 6** Azenkot et al. discloses everything claimed as applied above (*see claim 3*). In addition, the method includes:

wherein said minislots per frame value is calculated by dividing said number of active codes parameter by said Cms parameter *(see column 31, lines 55-58, c codes per minislots, p number of active codes, s minislots per frame, s = p/c)*

Regarding **Claim 7** Azenkot et al. discloses everything claimed as applied above (*see claim 1*). In addition, the method includes:

wherein said step of using said frame duration value and said minislots per frame value to maintain said minislot counter and said frame counter comprises the steps of *(see column 30, lines 40-44, the CMTS must maintain a frame counter and a minislot counter, once every 2^23 counts for this sampling interval)*:

incrementing said minislot counter by the number of said minislots per frame value each time a frame duration number of timestamp counts passes *(see column 31, lines 1-4, minislot counter may be incremented by the number of minislots in the frame once per frame interval)* ; and

incrementing said frame counter by 1 each time said frame duration number of timestamp counts passes *(see column 30, lines 41-43, CMTS must maintain a frame counter)* .

Regarding **Claim 8** Azenkot et al. disclose a system for reusing Synchronous Code Division Multiple Access (S-CDMA) parameters to define Time Division Multiple Access (TDMA) minislot size, comprising *(see figure 11, overall system showing the CMTS and cable modem circuits that implement the synchronization):*

means for determining S-CDMA parameters to create a S-CDMA-type upstream channel descriptor (UCD) message by a cable modem termination system (CMTS) *(see column 30, lines 56-58, use parameters in the UCD message to calculate the number of time counts per SCDMA frame) ;*:

means for forwarding said S-CDMA-type UCD message to a modem operating in TDMA mode **(CM, cable modem)** by said CMTS *(see column 30, lines 50-64, CM must maintain a set of counter identical to the CMTS, the minislot number and the frame number in the UCD message keeps the CMs frame synchronized)(Using the timestamp snapshot and parameters in the UCD, the cable modem can calculate the number of time counts per SCDMA frame, meaning that a SCDMA type UCD message is forward to a TDMA modem and minislot mapping the message to transmitted)* ;

means for calculating a TDMA minislot size by said modem using said S-CDMA parameters *(see column 30, lines 1-3, minislot is 2xK where K is the number of spreading intervals) (see also column 30, lines 50-64, Using the timestamp snapshot and parameters in the UCD(SCDMA type), the cable modem(operating*

in TDMA mode) can calculate the number of time counts per SCDMA frame, this is the process for minislot mapping);

means for calculating a frame duration value and a minislots per frame value *(see figure 11,section 168, Cable Modem termination system);*

means for using said frame duration value and said minislots per frame value to maintain a minislot counter and a frame counter*(see column 30, lines 40-44, the CMTS must maintain a frame counter and a minislot counter, once every 2^23 counts for this sampling interval)*; and

means for constructing a relationship between a system timestamp counter, said minislot counter and said frame counter via a timestamp snapshot*(see figure 12b, timestamp snapshot, column 30, lines 51-55, timestamp snapshot is composed of timestamp count, minislot number and frame number).*

Regarding **Claim 9** Azenkot et al. discloses everything claimed as applied above (*see claim 8*). In addition, the system includes:

wherein said means for calculating said frame duration value and said minislots per frame value, said means for using said frame duration value and said minislots per frame value to maintain said minislot counter and said frame counter, and said means for constructing a relationship between said system timestamp counter, said minislot counter and said frame counter via said timestamp snapshot is provided by both said CMTS and said modem **(CM, cable modem)** *(see column 30, lines 65-67, the CM and CMTS, must each implement a 32-bit timestamp counter , a 32-bit minislot counter and a 8-bit frame counter);*

Regarding **Claim 10** Azenkot et al. discloses everything claimed as applied above (*see claim 8*). In addition, the system includes:

wherein said means for determining S-CDMA parameters comprises:

means for determining a modulation rate parameter*(see column 31, line 18, signaling rate defined)*;

means for determining a spreading intervals per frame (K) parameter*(see column 31, lines 19-20, the number of spreading intervals per frame);*

means for determining a number of active codes parameter*(see column 31, line 21, the number of active codes);* and

means for determining a codes per minislot (Cms) parameter*(see column 31, lines 19, the codes per minislot).*

Regarding **Claim 11** Azenkot et al. discloses everything claimed as applied above (*see claim 10*). In addition, the system includes:

wherein said minislot size is calculated by multiplying said K parameter by said Cms parameter*(see column 31, lines 60-61, minislots where each minislot contains c*k(spreading intervals) symbols).*

Regarding **Claim 12** Azenkot et al. discloses everything claimed as applied above (*see claim 10*). In addition, the system includes:

wherein said frame duration value is calculated by multiplying a duration of spreading interval parameter by said K parmeter*(see column 31, lines 34-36, the number of spread intervals and the signaling rate defines the frame duration).*

1 Regarding **Claim 13** Azenkot et al. discloses everything claimed as applied above (*see claim 10*). In addition, the system includes:

wherein said minislots per frame value is calculated by dividing said number of active codes parameter by said Cms parameter*(see column 31, lines 55-58, c codes per minislots, p number of active codes, s minislots per frame, s = p/c).*

Regarding **Claim 14** Azenkot et al. discloses everything claimed as applied above (*see claim 8*). In addition, the system includes:

wherein said means for using said frame duration value and said minislots per frame value to maintain said minislot counter and said frame counter comprises*(see column 30, lines 40-44, the CMTS must maintain a frame counter and a minislot counter, once every 2^23 counts for this sampling interval)*:

means for incrementing said minislot counter by the number of said minislots per frame value each time a frame duration number of timestamp counts passes*(see column 31, lines 1-4, minislot counter may be incremented by the number of minislots in the frame once per frame interval)*; and

means for incrementing said frame counter by 1 each time said frame duration number of timestamp counts passes*(see column 30, lines 41-43, CMTS must maintain a frame counter).*

Response to Arguments

1.   Applicant's arguments filed May 29, 2007 have been fully considered but they are not persuasive. New grounds necessitated by amendment.

In the remarks on pgs. 7-9 of the amendment, the applicant contends that Azenkot et al. does not teach or suggest "forwarding said S-CDMA-type UCD message

to a modem operating in TDMA mode by said CMTS; calculating a TDMA minislot size by said modem using said S-CDMA parameters" Examiner respectfully disagrees. Azenkot et al. teaches in the section labeled "Minislot Mapping", SCDMA type UCD message is forwarded to the cable modem and the steps of mapping minislot is disclosed using the parameter of the SCDMA UCD message see col. 30, lines 56-64. See rejection of claim 1 and 8.

Conclusion

2.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mon Cheri S. Davenport whose telephone number is 571-270-1803. The examiner can normally be reached on Monday - Friday 8:00 a.m. - 5:00 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MD/md
August 18, 2007

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